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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,306	10/15/2001	Denis O'Keeffe	09623C-036300US	4335

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EXAMINER

SHENG, TOM V

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/978,306

Applicant(s)

O'KEEFFE ET AL.

Examiner

Tom V Sheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-6, 12-21, and 27-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 5, 9 and 10 of U.S. Patent No. 6,798,397 B2, hereinafter PAT 397, in view of Bohn (US 2003/0006965 A1) and Chinen (US 6099929).

The claims of the patent by the applicant recite all limitations in the current application except regarding free extending button(s), associated cantilevered mounting, and island mounted on said body (where roller is provided through and is supported by a cantilevered arm that are clearly read by claims 1 and 2 of copending application). These limitations are taught by Bohn's surface area having a scrolling wheel and Chinen's tongues 17, 18 and Chinen's mounting strip 15 as described in rejections below. It would have been obvious for one of ordinary skill in the art at the

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time the invention was made to include Bohn's and Chinen's features into PAT 397 so as to provide the benefits of roller access with flexible protective covers as buttons.

The applicants have stated a terminal disclaimer is submitted in the amendment filed on 10/12/2004 but the office has not received any to date.

3. Claims 1, 2, 7-11, 22-26 and 28-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14, 17 and 18 of U.S. Patent No. 6,798,397 B2 in view of Su (US 6,791,533 B2).

Claims 14, 17 and 18 of the patent by the applicants recite all limitations of above claims in the current application except regarding cantilevered mounting or hinge point(s) of the free extending button(s) and respective location(s), metallic top housing, top housing being curved around the back of the mouse, and non-metallic interior housing. These limitations are taught or rendered obvious by Su's top cover, coupling post, coupling unit, push key and embedding unit. See below rejections for details. It would have been obvious for one of ordinary skill in the art at the time the invention was made to include Su's features into the mouse as claimed in the '397 patent so as to further provide the benefits of features taught or rendered obvious by Su.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 7, 11 and 28-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Su (US 6,791,533 B2).

As to claims 1 and 11, Su teaches an input device (seamless mouse 100; fig. 1-3) comprising:

a body of said device (base 10; column 2, line 4);

electronic circuitry mounted in said body (an inherent pcb and a touch switch 14 in the activating trough 13; column 2, lines 6-7);

a top housing mounted over said body (top cover 20; column 2, line 8); and

a free extending button integrally formed with said top housing (at least one push key 24 extending forward from the top cover 20; column 2, lines 13-14);

said extending button being depressible separately with respect to a remainder of said top housing (each push key can be flexed independent of the rest of the top cover; column 2, lines 49-52);

said top housing providing a cantilevered mounting of said extending button to said body of said device (the connection between the coupling post 22 and the coupling unit 12 forms a cantilevered mounting; column 2, lines 15-19 and 41-44); and

said cantilevered mounting providing a spring force (bias force) for the free extending button to return the free extending button to a neutral position (unflexed state) subsequent to being pressed by a user (the bias force of the top cover to return each

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push key to an unflexed state is in turn inherently provided substantially by or due to the connection between the coupling post 22 and the coupling unit 12).

As for claim 7, the top covers 20 curves around forming the back of the seamless mouse 100 and attaches to the backside of the base 10.

As for claims 28 and 29, the top cover 20 shown in Fig. 1-3 is disposed over a substantial portion of the body or disposed over substantially all of the body.

As for claim 30, the mounting (reads on the combination of the coupling post 22 and the coupling 12 - a support) between the top housing and the body of Su is located more than halfway toward the back of the top housing and the portion of the top housing behind the mounting does extend toward the back of the mouse body.

As for claims 31 and 32, the backside of the top housing 20 behind the coupling post 22 is inherently flexible due to spacing allowed as shown in Fig. 3 between the joining key 21 and the embedding unit 11 and would allow compression force on it by the palm of a user to be distributed.

6. Claims 1, 7, 11 and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson (US 6,844,873 B2).

As to claims 1 and 11, Johnson teaches an input device (a mouse type pointing device; fig. 3) comprising:

a body of said device (pointing device 50; column 5, lines 25-27);

electronic circuitry mounted in said body (electronic switch 12; column 5, lines 35-37);

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a top housing mounted over said body (reverse cantilevered button assembly 52 including palm portion 54; column 5, lines 27-29); and

a free extending button integrally formed with said top housing (finger portion 38; column 5, lines 29-31);

said extending button being depressible separately with respect to a remainder of said top housing (the finger portion 38 can be pressed down separately from the palm portion 54 due to the setup of a reverse cantilevered assembly 52; see fig. 2 and column 3, line 59 through column 5, line 24 for details);

said top housing providing a cantilevered mounting of said extending button to said body of said device (first fulcrum 58; column 5, lines 32-35); and

said cantilevered mounting providing a spring force for the free extending button to return the free extending button to a neutral position subsequent to being pressed by a user (inherent due to the first fulcrum 58 and plastic material used in the reverse cantilevered button).

As for claim 7, the palm portion 54 curves around forming the back of the pointing device 50.

As for claims 28 and 29, the palm portion 54 shown in Fig. 3 is disposed over a substantial portion of the body or disposed over substantially all of the body.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 8-10 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su.

As for claim 2, Su teaches a seamless mouse, as discussed above with respect to the rejection of claim 1, and that the top cover includes a first portion and a flexible second portion that forms a pair of push key regions. Su does not teach that the top housing and extending button are metal. However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to choose any flexible material that is suitable for use as push keys and thin metal would certainly be a reasonable choice.

As for claim 8, Su does not teach a resilient bumper mounted between said top housing and said body where said top housing curves around the back of said device. However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate a bumper between the top cover 20 and the base 10 at the back, especially between the embedding unit 11 and the top cover 20 at where they meet because that serves to prevent any unnecessary flexing of the backside of the top cover 20.

As for claim 9, Su shows an air gap between the base 10 and the top cover 20. This air gap inherently provides for insulation from any circuitry provided on the base 10. However, Su does not teach a non-metallic interior housing mounted beneath said top housing between said top housing and electronic circuitry inside said device;

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wherein said top housing is metal, and said interior housing isolates said metal from said electronic circuitry.

As analyzed in the rejection of claim 2, metal is a reasonable choice of material for providing flexible push keys 24 of the top cover 20. However, when using metal, electrical isolation becomes a real concern. It would have been obvious for one of ordinary skill in the art at the time the invention was made to prudently provide insulation between the metal top cover 20 and the circuitry on the base 10. A non-metallic interior housing basically serves the insulation purpose. This is common sense because shorting is a very real possibility if any circuitry becomes detached from the base or a loose metallic piece breaks off the base.

As for claim 10, the hinge point of the extended button of Su is located more than halfway toward the back of the mouse at the coupling unit 12 close to the base 10; whereas claimed hinge point is disposed in the remainder portion of the top housing. However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to relocate the hinge point at the top cover 20 simply by making coupling post 22 short and coupling unit 12 long. This way and the way as taught by Su are both functionally equivalent.

Claim 22 is rejected according to the rejections of claims 1, 2 and 9.

Claim 23 is rejected according to the rejections of claims 1 and 10.

As for claim 24, press fit is a straightforward way of attaching the top housing to the body.

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As for claims 25 and 26, the top cover 20 shown in Fig. 1-3 is disposed over a substantial portion of the body or disposed over substantially all of the body.

9. Claims 2, 9, 22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson.

As for claim 2, Johnson teaches a mouse, as discussed above with respect to the rejection of claim 1, and that the reverse cantilevered button assembly includes a first portion (palm portion 54) and a flexible second portion (finger portion 38). Johnson does not teach that the palm portion and the finger portion are made of metal. However, it would have been obvious for one of ordinary skill in the art at the time the invention was made to choose any flexible material that is suitable for use as buttons and thin metal would certainly be a reasonable choice.

As for claim 9, Johnson does not teach a non-metallic interior housing mounted beneath the top housing between said top housing and electronic circuitry inside said device; wherein said top housing is metal, and said interior housing isolates said metal from said electronic circuitry.

As analyzed in the rejection of claim 2, metal is a reasonable choice of material for providing flexible push buttons of the button assembly. However, when using metal, electrical isolation becomes a real concern. It would have been obvious for one of ordinary skill in the art at the time the invention was made to prudently provide insulation between the button assembly and the circuitry below. A non-metallic interior housing basically serves the insulation purpose. This is common sense because

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shorting is a very real possibility if any circuitry becomes detached from the base or a loose metallic piece breaks off.

Claim 22 is rejected according to the rejections of claims 1, 2 and 9.

As for claim 24, press fit is a straightforward way of attaching the top housing to the body.

As for claims 25 and 26, the palm portion 54 shown in fig. 3 is disposed over a substantial portion of the body or disposed over substantially all of the body.

Response to Arguments

10. Applicant's arguments, see pages 10-13 of amendment, filed on 10/12/2004, with respect to the rejection(s) of claim(s) 1, 3, 6, 7, 11, 12, 14-17 and 27-29 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new ground(s) of rejection is made in view of Su and also Johnson.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
March 13, 2005



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